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WO 2005/014863

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⁹ 8381 DNA Homo sapiens

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Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 315

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe 370 380

75

Met Glu Gln Thr Val Leu Val Pro Pro Gly Pro Asp Ser Phe Asn Phe

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu 20 25 30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Asp Glu Asn Gly

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$

Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr Page 124

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⁷⁵ 2009 <211><212>

Homo sapiens

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SSCP Update Sequences.ST25

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Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp`Pro Trp Asn Trp 180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe $245 \hspace{1.5cm} 250 \hspace{1.5cm} 255$

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn 260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 315 Ser Tyr Ile Gln Asp 320

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 380

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Pro Gly Lys Thr Tyr Met 385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn 405 410 415

Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala Page 125

420

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445 Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460 Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 475 Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu
485 490 495 Arg Arg Asn Arg Lys Lys Arg Lys Glu Gln Ser Gly Gly 500 505 510Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525 Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540 Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 560 Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575 Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 590 Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Asp Ser Leu 595 600 605 Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620 Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 635 640 Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 650

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu 675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670

690

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 715 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 745

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro 755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 810 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 875 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Gly Met Gln Leu Phe $900 \hspace{1.5cm} 905 \hspace{1.5cm} 910$

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met Page 127

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu 980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asn Glu 995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030

Ile Arg. Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp 1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val 1100 1110

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn 1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu 1130 1140

Lys Leu Asn Glu Ser Ser Ser Ser Glu Gly Ser Thr Val Asp 1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu 1160 1165 1170

Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg 1175 1180 1185

Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln 1190 1200

Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn 1205 1210

Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly Page 128

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SSCP Update Sequences.ST25 1220 1225 1230

Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile 1235 1240 1245

Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe 1250 1260

Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr 1265 1270 1275

Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp 1280 1290

Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu 1295 1300 1305

Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro $1310 \hspace{1.5cm} 1320$

Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn 1325 1330 1335

Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val 1340 1345 1350

Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu 1355 1360 1365

Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp 1370 1380

Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395

Leu Ile Glu Arg Asn Glu Thr Ala Arg Trp Lys Asn Val Lys Val 1400 1405 1410

Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val 1415 1420 1425

Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp 1430 1435 1440

Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Lys Ser Leu Tyr 1445 1450 1455

Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln
Page 129

PCT/AU2004/001051 WO 2005/014863

SSCP Update Sequences.ST25 1475 1480

Gln Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu 1490 1495

Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys 1505 1510 1515

Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met 1520 1530

Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met 1535 1540 1545

Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu 1565 1570 1575

Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile 1580 1590

Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp 1595 1600 1605

Phe Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu 1610 1620

Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile 1625 1630 1635

Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala 1640 1645

Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro 1655 1660 1665

Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile 1670 1680

Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Arg Glu 1685 1690 1695

Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser 1700 1705 1710

Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly 1715 1720

Leu Leu Ala Pro Ile Leu Asn' Ser Lys Pro Pro Asp Cys Asp Pro Page 130

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SSCP Update Sequences.ST25 1735 1740 1730

Asn Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn 1745 1750 1755

Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser 1760 1765 1770

Phe Leu Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn 1775 1780 1785

Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp 1790 1795 1800

Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1810

Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln Phe Ala Ala

Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln 1835 1840 1845

Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1855 1860

Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1865 1870

Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe 1880 1885 1890

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr 1895 1900

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln 1910 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala 1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu 1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser 1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro 1970 1980

Pro Ser Tyr Asp Arg Val Thr Lys Pro Ile Val Glu Lys His Glu Page 131

SSCP Update Sequences.ST25 1990 1995

1985

Gln Glu Gly Lys Asp Glu Lys Ala Lys Gly Lys 2000 2005

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<211> 2009 <212> PRT

<213> Homo sapiens

<400> 76

Met Glu Gln Thr Val Leu Val Pro Pro Gly Pro Asp Ser Phe Asn Phe $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu 20 25 30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Glu Asn Gly 35 40

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr $100 \hspace{1cm} 105 \hspace{1cm} 110$

Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 135 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr 145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp $180 \hspace{1cm} 185 \hspace{1cm} 190$

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220 Page 132

Lys 225	Thr	Ile	Ser	Val	11e 230	Pro	Gly	Leu	Lys	Thr 235	Ile	Val	Glу	Ala	Leu 240
Ile	Gln	Ser	٧a٦	Lys 245	Lys	Leu	Ser	Asp	Val 250	Met	Ile	Leu	Thr	Va1 255	Phe
Cys	Leu	Ser	Va1 260	Phe	Ala	Leu	Ile	Gly 265	Leu	Gln	Leu	Phe	Met 270	Gly	Asn
Leu	Arg	Asn 275	Lys	Cys	Ile	Gln	Trp 280	Pro	Pro	Thr	Asn	Ala 285	Ser	Leu	Glu
Glu	ніs 290	Ser	Ile	Glu	Lys	Asn 295	Ile	Thr	Val	Asn	Tyr 300	Asn	Gly	Thr	Leu
Ile 305	Asn	Glu	Thr	٧a٦	Phe 310	Glu	Phe	Asp	Trp	Lys 315	Ser	Tyr	Ile	Gln	Asp 320
Ser	Arg	Tyr ·	Нis	Tyr 325	Phe	Leu	Glu	Gly	Phe 330	Leu	Asp	Ala	Leu	Leu 335	Cys
Glу	Asn	ser	Ser 340	Asp	Ala.	Gly	Gln	Cys 345	Pro	Glu	Glу	Туг	Met 350	Cys	val
Lys	Ala	G7y 355	Arg	Asn	Pro	·Asn	Tyr 360	Gly	Tyr	Thr	ser	Phe 365	Asp	Thr	Phe
Ser	Trp 370	Ala	Phe	Leu	Ser	Leu 375	Phe	Arg	Leu	Met	Thr 380	Gln	Asp	Phe	Trp
G]u 385	Asn	Leu	Туг	Gln	Leu 390	Thr	Leu	Arg	Ala	Ala 395	Gly	Lys	Thr	Tyr	Met 400
IJе	Phe	Leu	٧a٦	Leu 405	٧a٦	Ile	Phe	Leu	Gly 410	Ser	Phe	Tyr	Leu	11e 415	Asn
Leu	Ile	Leu	Ala 420	٧a٦	۷al	Ala	Met	Ala 425	Tyr	Glu	Glu	Gln	Asn 430	G]n	Аlа
Thr	Leu	G]u 435	Glu	Ala	Glu	Gln	Lys 440	Glu	Аlа	Glu	Phe	G]n 445	Gln	Met	Ile
Glu	Gln 450	Leu	Lys	Lys	Gln	G]n 455	Glu	Αla	Ala	Gln	G]n 460	Αla	Ala	Thr	Ala
Thr 465	Ala	ser	Glu	нis	Ser 470	Arg	Glu	Pro	Ser	А]а 475	Ala	Glу	Arg	Leu	Ser 480
Asp	Ser	ser	Ser	Glu 485	Ala	Ser	Lys	Leu	490	Ser e 13:		Ser	Аla	Lys 495	Glu

Arg Arg Asn Arg Arg Lys Lys Arg Lys Glu Gln Ser Gly Gly 500 505 Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525 Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540 Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 560 Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 565 570 575Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 590 Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Asp Ser Leu 595 600 Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620 Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 635 640 Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 650 655 Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670 Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Glu Thr Glu 675 680 685 Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu 690 695 700 Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 720 Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 730 735 Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 750 Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 810 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 855 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Gly Met Gln Leu Phe $900 \\ 905 \\ 910$

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 935 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 950 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met 965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu 980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu 995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030 1035

Ile	Arg 1040		Gln	Lys	Tle	Leu 1045	Asp	Glu	Ile	Lys	Pro 1050		Asp	Asp
Leu	Asn 1055	Asn	Lys	Lys	Asp	ser 1060	Cys	Met	Ser		ніs 1065		Thr	Glu
Ile	Gly 1070	Lys	Asp	Leu	Asp	Tyr 1075	Ļeu	Lys	Asp	Va1	Asn 1080	Gly	Thr	Thr
Ser	Gly 1085	Ile	Gly	Thr	Glу	Ser 1090	Ser	٧a٦	Glu	Lys	Tyr 1095	Ile	Ile	Asp
Glu	Ser 1100	Asp	Ťyr	Met	Ser	Phe 1105	Ile	Asn	Asn	Pro	Ser 1110	Leu	Thr	val
Thr	Va] 1115	Pro	Ile	Ala	Val	Gly 1120	Glu	Ser	Asp	Phe	Glu 1125	Asn	Leu	Asn
Thr	G]u 1130	Asp	Phe	Ser	Ser	Glu 1135	Ser	Asp	Leu	Glu	Glu 1140	Ser	Lys	Glu
Lys	Leu 1145	Asn	Glu	Ser	ser	Ser 1150	Ser	Ser	Glu	Gly	ser 1155	Thr	val	Asp
Ile	Gly 1160	Ala	Pro	٧a٦	Glu	Glu 1165	Gln	Pro	val	Val	Glu 1170	Pro	Glu	Glu
Thr	Leu 1175	Glu	Pro	Glu	Ala	Cys 1180	Phe	Thr	Glu	Gly	Cys 1185	٧a٦	Gln	Arg
Phe	Lys 1190	Cys	Cys	Gln	Ile	Asn 1195	Val	Glu	Glu	Gly	Arg 1200	Glу	Lys	G]n
Trp	Trp 1205	Asn	Leu	Arg	Arg	Thr 1210	Cys	Phe	Arg	Ile	Va] 1215	Glu	His	Asn
Trp	Phe 1220	Glu	Thr	Phe	īle	Val 1225	Phe	Met	ïlе	Leu	Leu 1230	Ser .,	Ser	Gly
Ala	Leu 1235	Αla	Phe	Glu	Asp	Ile 1240	Tyr	Ile	Asp	Gln	Arg 1245	Lys	Thr	Ile
Lys	Thr 1250	Met	Leu	Glu	туr	Ala 1255	Asp	Lys	val	Phe	Thr 1260	Tyr	Ile	Phe
Ile	Leu 1265	Glu	Met	Leu	Leu	Lys 1270	Trp	Val	дlа	Tyr	G]y 1275	Tyr	Gln	Thr
Tyr	Phe 1280	Thr	Asn	Ala	Trp	Cys 1285	Trp		Asp age 1		Leu 1290	Ile	Val	Asp

	Glu
Arg	Pro
val	Asn
Leu	val
Asn	Leu
Gly	Asp
Leu	Lys
Lys	val
Gln	Val
٧a٦	Asp
Leu	Tyr
Phe	Phe
Asn	Gln
Glu	Glu
	Lve
Lys	СУЗ
Lys Gly	
	Leu Asn Gly Leu Lys Gln val Leu Phe

			•											
Ile	Leu 1550	Ile	Cys	Leu	Asn	Met 1555	۷al	Thr	мet	Met	Val 1560	Glu	Thr	Asp
Asp	Gln 1565	ser	Glu	Tyr	٧a٦	Thr 1570	Thr	Ile	Leu	Ser	Arg 1575	Ile	Asn	Leu
val	Phe 1580	ıle	val	Leu	Phe	Thr 1585	Gly	Glu	Cys	val	Leu 1590	Lys	Leu	Ile
Ser	Leu 1595	Ärg	His	Tyr	Tyŕ	Phe 1600	Thr	Ile	Glу	Trp	Asn 1605	Ile	Phe	Asp
Phe	Val 1610	val	٧a٦	Ile	Leu	Ser 1615	Ile	۷al	Glу	Met	Phe 1620	Leu	Ala	Glu
Leu	Ile 1625	Glu	Lys	туг	Phe	Val 1630	Ser	Pro	Thr	Leu	Phe 1635	Arg	۷a٦	Ile
Arg	Leu 1640	Ala	Arg	Ile	Glу	Arg 1645	Ile	Leu	Arg	Leu	Ile 1650	Lys	Gly	Ala
Lys	Gly 1655	Ile	Arg	Thr	Leu	Leu 1660	Phe	Ala	Leu	Met	Met 1665	Ser	Leu	Pro
Ala	Leu 1670		Asn	Ile	Glу	Leu 1675	Leu	Leu	Phe	Leu	Val 1680	Met	Phe	Ile
Tyr	Ala 1685	Ile	Phe	Glу	Met	Ser 1690		Phe	Ala	Tyr	Val 1695	Lÿs	Arg	Glu
`Va1	Gly 1700	Ile	Asp	Asp	Met	Phe 1705	Asn	Phe ·	Glu	Thr	Phe 1710	Gly	Asņ	Ser
Met	lle 1715	Ċys	Leu	Phe	Gln	Ile 1720	Thr	Thr	Ser	Ala	Gly 1725	Trp	Asp	_. G]у
Leu	Leu 1730	Ala	Pro	Ile	Leu	Asn 1735	Ser	Lys	pro	Pro	Asp 1740	Cys	Asp	Pro
Asn	Lys 1745	val	, Asn	Pro	Gly	Ser 1750	Ser	val	Lys	Gly	Asp 1755	Cys	Gly	Asn
Pro	Ser 1760	۷al	Gly	Ile	Phe	Phe 1765	Phe	val	Ser	Tyr	Ile 1770	Ile	ile	Ser
Phe	Leu 1775	٧a٦	Val	val	Asn	Met 1780	туг	Ile	Αla	val	Ile 1785	Leu	Glu	Asn
Phe	ser 1790	٧a٦	Ala	Thr	Glu	Glu 1795	Ser				Leu 1800	Ser	Glu	Asp
								P	age :	TZR				

Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1815

Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln Phe Ala Ala 1820 1825 1830

Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln 1835 1840 1845

Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1855 1860

Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1865 1870 1875

Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe 1880 1885 1890

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr 1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln 1910 1915 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala 1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu 1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser 1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro 1970 1980

Pro Ser Tyr Asp Arg Val Thr Lys Pro Ile Val Glu Lys His Glu 1985 1990 1995

Gln Glu Gly Lys Asp Glu Lys Ala Lys Gly Lys 2000 2005

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<211> 2009

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Met Glu Gln Thr Val Leu Val Pro Pro Gly Pro Asp Ser Phe Asn Phe 1 5 10 15

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu 20 25 30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Asp Glu Asn Gly 35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 75

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr 100 105 110

Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr 145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp 180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 225 230 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn 260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 315

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 380

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met 385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Asn Leu Ile Asn 405 410 415

Leu Ile Leu Ala Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala 420 425 430

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445

Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460

Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 475 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu 485 490 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly 500 505

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525

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Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 555 560

SSCP Update Sequences ST25 Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575 Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 590 Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu 595 600 Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620 Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 630 640 Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 650 655 Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670 Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Glu Thr Glu 675 680 685 Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu 690 695 700 Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 720 Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro 755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 810

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 875 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe 900 905 910

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 935 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met 965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu 980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu 995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030 1035

Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp 1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1075 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095

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Thr Glu Asp, Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu 1130 1140

Lys Leu Asn Glu Ser Ser Ser Ser Glu Gly Ser Thr Val Asp 1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Pro Val Val Glu Pro Glu Glu 1160 1165 1170

Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg 1175 1180 1185

Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln 1190 1195 1200

Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn 1205 1210

Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly 1220 1230

Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile 1235 1240 1245

Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe 1250 1255 1260

Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr 1265 1270 1275

Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp 1280 1285 1290

Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu 1295 1300 1305

Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro 1310 1320

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Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val 1340 1345 1350

Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu 1355 1360 1365

Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp 1370 1375 1380

Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395

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Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val 1415 1420 1425

Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp 1430 1440

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Gln Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu 1490 1495 1500

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Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp 1595 1600 1605

Phe Val Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu 1610 1615 1620

Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile 1625 1630 1635

Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala 1640 1645 1650

Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro 1655 1660 1665

Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile 1670 1680

Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Arg Glu 1685 1690 1695

Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser 1700 1705 1710

Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly 1715 1720 1725

Leu Leu Ala Pro Ile Leu Asn Ser Lys Pro Pro Asp Cys Asp Pro 1730 1740

Asn Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn 1745 1750 1755

Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser 1760 1765 1770

Phe Leu Val Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn 1775 1780 1785

Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp 1790 1795 1800

Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1810 1815

Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln Phe Ala Ala 1820 1825 1830

Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln 1835 1840 1845

Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1860

Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1865 1870 1875

Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe 1880 1885

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr 1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln 1910 1915 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala 1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu 1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser 1955 1960 1965

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Gln Glu Gly Lys Asp Glu Lys Ala Lys Gly Lys 2000 2005

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Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Asp Glu Asn Gly

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60 .

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 75 80 SSCP Update Sequences.ST25
Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu
85 90 95 Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr $100 \hspace{1cm} 105 \hspace{1cm} 110$ Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 140 Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr 145 150 155 160 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp 180 185 190 Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 220 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 230 235 240 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn $260 \hspace{1cm} 265 \hspace{1cm} 270 \hspace{1cm}$ Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285

273 280 203

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 315 320

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350 SSCP Update Sequences.ST25

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe
355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 375 380 .

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met 385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn 405 410 415

Leu Ile Leu Ala Val Glu Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala 420 425 430

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445

Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460

Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 475 480

Asp Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu 485 490 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly 500 505 510

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 585

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu 595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 630 635 Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 650 655 Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670 Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu 675 680 685 Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu 690 695 700 Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 720 Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 735 Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
740 745 750 Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro 755 760 765 Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780 Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 800 Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830 Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845 Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 855 Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 875 Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 895

- SSCP Update Sequences.ST25

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- Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925
- Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 935
- Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 950 960
- Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met 965 970 975
- Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu 980 985 990
- Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu 995 1000
- Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1020
- Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030 1035
- Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp 1040 1045 1050
- Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060 1065
- Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1080
- Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095
- Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val 1100 1105 1110
- Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn 1115 1120 1125
- Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu 1130 1140
- Lys Leu Asn Glu Ser Ser Ser Ser Glu Gly Ser Thr Val Asp 1145 1150 1155

- SSCP Update Sequences.ST25

 Ile Gly Ala Pro Val Glu Glu Gln Pro Val Glu Pro Glu Glu
 1160 1165 1170
- Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg 1175 1180 1185
- Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arģ Gly Lys Gln 1190 1195 1200
- Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn 1205 1210 1215
- Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly 1220 1230
- Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile 1235 1240 1245
- Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe 1250 1255 1260
- Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr 1265 1270 1275
- Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp 1280 1285 1290
- Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu 1295 1300 1305
- Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro 1310 1320
- Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn 1325 1330 1335
- Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val 1340 1345 1350
- Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu 1355 1360 1365
- Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp 1370 1375 1380
- Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395
- Leu Ile Glu Arg Asn Glu Thr Ala Arg Trp Lys Asn Val Lys Val 1400 1405 1410

- SSCP Update Sequences.ST25
 Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val
 1415 1420 1425
- Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp 1430 1435 1440
- Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Lys Ser Leu Tyr 1445 1450 1455
- Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe 1460 1465
- Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln 1475 1480 1485
- Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu 1490 1500
- Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys 1505 1510 1515
- Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met 1520 1530
- Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met 1535 1540 1545
- Ile Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr Asp 1550 1560
- Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu 1565 1570 1575
- Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile 1580 1585
- Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp 1595 1600 1605
- Phe Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu 1610 1615 1620
- Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile 1625 1630 1635
- Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala 1640 1645 1650
- Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro 1655 1660 1665

SSCP Update Sequences_ST25 Ala Leu Phe Asn Ile Gly Leu Leu Phe Leu Val Met Phe Ile 1670 1680 Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Arg Glu 1685 1690 1695 Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser 1700 1705 1710 Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly 1715 1720 1725 Leu Leu Ala Pro Ile Leu Asn Ser Lys Pro Pro Asp Cys Asp Pro 1730 1735 1740 Asn Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn 1745 1750 1755 Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser 1760 1765 1770 Phe Leu Val Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn 1775 1780 1785 Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp 1790 1795 1800 Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1810 1815 Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln Phe Ala Ala 1820 1830 Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln 1835 1840 1845 Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1860 Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1865 1870 1875 Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe 1880 1885 1890 Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr 1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln 1910 1920 SSCP Update Sequences.ST25

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala
1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu 1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser 1955 1960 1965

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Pro Ser Tyr Asp Arg Val Thr Lys Pro Ile Val Glu Lys His Glu 1985 1990 1995

Gln Glu Gly Lys Asp Glu Lys Ala Lys Gly Lys 2000

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Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Glu Asn Gly 35

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr 100 105

Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 135 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr Page 155 145.

SSCP Update Sequences.ST25 155

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Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp 180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 225 230 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe 245 250

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn 260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 ' 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 310 315

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 380

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met 385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn 405 410 415

Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala Page 156

SSCP Update Sequences.ST25 430

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445

Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460

Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu 485 490 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly 500 505

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Asp Ser Leu 595 600

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 630 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Glu Thr Glu 675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu Page 157

SSCP Update Sequences.ST25

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 715 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 745

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro 755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 775 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 855

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe 900 905 910

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 935

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 950 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met Page 158

SSCP Update Sequences.ST25

975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu 980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu 995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln. Gln Ser Phe 1025 1030 1035

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1075 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn 1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu 1130 1140

Lys Leu Asn Glu Ser Ser Ser Ser Glu Gly Ser Thr Val Asp 1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu 1160 1165 1170

Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg 1175 1180 1185

Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln 1190 1200

Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn 1205 1210

Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly Page 159

SSCP Update Sequences.ST25 1225 1230

Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile 1235 1240 1245

Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe 1250 1260

Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr 1265 1270 1275

Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp 1280 1285 1290

Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu 1295 1300 1305 .

Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro 1310 1320

Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn 1325 1330 1335

Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val 1340 1345 1350

Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu 1355 1360 1365

Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp 1370 1380

Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395

Leu Ile Glu Arg Asn Glu Thr Ala 1400 1405

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<212> PRT <213> Homo sapiens

<400> 80

Met Glu Gln Thr Val Leu Val Pro Pro Gly Pro Asp Ser Phe Asn Phe 1 5 10

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu 25 30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Asp Glu Asn Gly
35
40
Page 160

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 80 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95 Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr 100 105 110 Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 135 140 Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr 145 150 160 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg $165 \hspace{1.5cm} 170 \hspace{1.5cm} 175$ Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp 180 185 190 Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 225 230 240 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe 245 250 255 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn 260 270 Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285 Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 300 Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 320 Page 161

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335 Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350 Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365 Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 380 Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met 385 390 395 400 Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn 405 415 Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala 420 425 430 Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445 Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460 Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 475 480 Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu 485 490 495 Arg Arg Asm Arg Arg Lys Lys Arg Lys Glm Lys Glu Glm Ser Gly Gly 500 505 Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 520 525 Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540 Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 560 Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575 Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 585

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu 595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 630 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 645 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu 675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu 690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 715 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 810 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 860 Page 163 .

- Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 875 880
- Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890 895
- Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe 900 905 910
- Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920
- Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 940
- Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 950 955
- Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met 965 970 975
- Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu 980 985 990
- Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu 995 1000 1005
- Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1020
- Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030 1035
- Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060 1065
- Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1080
- Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095
- Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val
- Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn 1115 1120 1125 Page 164

Thr	G]u 1130	Asp	Phe	Ser	ser	Glu 1135	Ser	Asp	Leu	Glü	Glu 1140	Ser	Lys	Glu
Lys	Leu 1145	Asn	Glu	ser	Ser	ser 1150	Ser	Ser	Glu	Glу	Ser 1155	Thr	val	Asp
Ile	Gly 1160	Ala	Pro	val	Glu	Glu 1165	Gln	Pro	Val	۷al	Glu 1170	Pro	Glu	Glu
Thr	Leu 1175	Glu	Pro	Glu	Аla	Cys 1180	Phe	Thr	Glu	Gly	Cys 1185	Val	Gln	Arg
Phe	Lys 1190	Cys	Cys	Gln	Ile	Asn 1195	۷al _.	Glu	Glu	Gly	Arg 1200	Gly	Lys	Gln
Trp	Trp 1205	Asn	Leu	Arg	Arg	Thr 1210	Cys	Phe	Arg	Ile	val 1215	Glu	His	Asn
Trp	Phe 1220	Glu	Thr	Phe	Ile	Val 1225	Phe	Met	Ile	Leu	Leu 1230	Ser	Ser	Gly
Ala	Leu 1235	Αla	Phe	Glu	Asp	Ile 1240	Tyr	Ile	Asp	Gln	Arg 1245	Lys	Thr	Ile
Lys	Thr 1250	Met	Leu	Glu	Tyr	Ala 1255	Asp	Lys	∨a1	Phe	Thr 1260	Tyr	Ile	Phe
Ile	Leu 1265	Glu	Met	Leu	Leu	Lys 1270	Trp	Val	Αla	Tyr	Gly 1275	Tyr	Gln	Thr
Tyr	Phe 1280	Thr	Asn	Ala	Trp	Cys 1285	Trp	Leu	Asp	Phe	Leu 1290	Ile	val-	Asp
∨a1	Ser 1295	Leu	val	Ser	Leu	Thr 1300	Αla	Asn	Ala	Leu	Gly 1305	Tyr	Ser	Glu
Leu	Gly 1310	Ala	ıle	Lys	Ser	Leu 1315	Arg	Thr	Leu	Arg	Ala 1320	Leu	Arg	Pro
Leu	1325	Ala	Leu	ser	Arg	Phe 1330	Glu	Gly	Met	Arg	val 1335	٧a٦	۷al	Asn
Ala	Leu 1340		u Gly	⁄ А]а	ıle	Pro 1345	Ser	Ile	Met	Asr	val 1350	Leu	Leu	٧a٦
Cys	Leu 1355		Phe	≘ Trp	Leu	11e 1360	Phe	Ser	·Ile	. Met	: Gly 1365	val	Asn	Leu
Phe	e Ala 1370	Gly O	/ Lys	s Phe	≘ ⊤yr	ніs 1375	Cys		e Asn Page		Thr 1380	Thr	Gly	' Asp

- Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395
- Leu Ile Glu Arg Asn Glu Thr Ala Arg Trp Lys Asn Val Lys Val 1400 1405 1410
- Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val 1415 1420 1425
- Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp 1430 1435 1440
- Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Lys Ser Leu Tyr 1445 1450 1455
- Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe 1460 1465 1470
- Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln 1475 1480 1485
- Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu 1490 1495
- Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys 1505 1510 1515
- Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met 1520 1530
- Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met 1535 1540 1545
- Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu 1565 1570 1575
- Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile 1580 1585
- Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp 1595 1600 1605
- Phe Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu 1610 1615 1620
- Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile 1625 1630 1635 Page 166

Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala 1640 1645 1650 Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro 1655 1660 1665 Met Phe Ile Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val 1670 1680 Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Arg Glu 1685 1690 1695 Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser 1700 1705 1710 Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly 1715 1720 Leu Leu Ala Pro Ile Leu Asn Ser Lys Pro Pro Asp Cys Asp Pro 1730 1740 Asn Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn 1745 1750 1755 Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser 1760 1765 Phe Leu Val Val Val Asn Thr Tyr Ile Ala Val Ile Leu Glu Asn 1775 1780 1785 Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp 1790 1800 Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1810 1815 Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln 1820 1830 Phe Ala Ala Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1860 Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1865 1870 1875 Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe 1880 1885

Page 167

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr 1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln 1910 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala 1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu 1940 1945 . 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser 1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro 1970 1980

Pro Ser Tyr Asp Arg Val Thr Lys Pro Ile Val Glu Lys His Glu 1985 1990 1995

Gln Glu Gly Lys Asp Glu Lys Ala Lys Gly Lys 2000 2005

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<400> 81

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Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu 25 30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Glu Asn Gly 35

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile 50 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu 65 70 75

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Leu 85 90 95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr $100 \hspace{1cm} 105 \hspace{1cm} 110$

Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe 130 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr 145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp 180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu 225 230 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn 260 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu 275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu 290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp 305 310 315

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys 325 330 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val 340 345 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe 355 360 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp 370 380

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met 385 390 395 400

Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn 405 410 415

Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala 420 425 430

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile 435 440 445

Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala 450 455 460

Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser 465 470 475 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu 485 490 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly 500 505

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser 515 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr 530 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg 545 550 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp 580 585

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu 595 600

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln 610 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys 625 630 635

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly 655 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile 660 665 670 Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu 675 680 685 Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu 690 700 Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu 705 710 720 Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro 735 730 735 Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro 740 745 750 Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro 755 760 765 Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe 770 780 Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu 785 790 795 800 Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe 805 810 Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp 820 825 830 Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly 835 840 845 Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu 850 860 Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile 865 870 875 880 Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val 885 890 895 Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe 900 905 910 Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln 915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val 930 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met 945 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met 965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu 980 985

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asn Glu 995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val 1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe 1025 1030

Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp 1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Thr Glu 1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr 1070 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp 1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe $$ Ile Asn Asn Pro Ser $$ Leu Thr Val $$ $\phantom{0$

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn 1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu 1130 1135 1140

Lys Leu Asn Glu Ser Ser Ser Ser Glu Gly Ser Thr Val Asp 1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu 1160 1165 1170

Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg 1175 1180 1185

Phe Lys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln 1190 1200

Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn 1205 1210 1215

Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly 1220 1230

Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile 1235 1240 1245

Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe 1250 1260

Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr 1265 1270 1275

Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp 1280 1285 1290

Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu 1295 1300 1305

Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro 1310 1320

Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn 1325 1330 1335

Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val 1340 1345 1350

Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu 1355 1360 1365

Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp 1370 1375 1380

Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys 1385 1390 1395

Leu Ile Glu Arg Asn Glu Thr Ala Arg Trp Lys Asn Val Lys Val 1400 1405 1410

Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val 1415 1420 1425

Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp 1430 1440

Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Lys Ser Leu Tyr 1445 1450 1455

Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe 1460 1465 1470

Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln 1475 1480 1485

Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu 1490 1495 1500

Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys 1505 1510 1515

Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met 1520 1530

Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met 1535 1540 1545

Ile Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr Asp 1550 1560

Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu 1565 1570 1575

Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile 1580 1585 1590

Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp 1595 1600 1605

Phe Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu 1610 1615 1620

Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile 1625 1630 1635

Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala 1640 1650

Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro 1655 1660 1665

Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile 1670 1680

Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Arg Glu 1685 1690 1695

Val Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser 1700 1705 1710

Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly 1715 1720 1725

Leu Leu Ala Pro Ile Leu Asn Ser Lys Pro Pro Asp Cys Asp Pro 1730 1740

Asn Lys Val Asn Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn 1745 1750 1755

Pro Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser 1760 1765 1770

Phe Leu Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn 1775 1780 1785

Phe Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp 1790 1795 1800

Asp Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp 1805 1810 1815

Ala Thr Gln Phe Met Glu Phe Glu Lys Leu Ser Gln Phe Ala Ala 1820 1825 1830

Ala Leu Glu Pro Pro Leu Asn Leu Pro Gln Pro Asn Lys Leu Gln 1835 1840 1845

Leu Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1850 1855 1860

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Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu 1880 1885

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Thr Asn Ala Glu Thr Phe Thr Glu Trp Thr Phe Arg Gln Lys Gly Thr 50 55 60

Glu Glu Phe Val Lys Ile Leu Arg Tyr Glu Asn Glu Val Leu Gln Leu 65 70 75 80

Glu Glu Asp Glu His Phe Glu Gly Arg Val Val Trp Asn Gly Ser Arg 85 90 95

Gly Thr Lys Asp Leu Gln Asp Leu Ser Ile Phe Ile Thr Asn Val Thr 100 105 110

Tyr Asn His Ser Gly Asp Tyr Glu Cys His Val Tyr Arg Leu Leu Phe 115 120 125

Phe Glu Asn Tyr Glu His Asn Thr Ser Val Val Lys Lys Ile His Ile 130 135 140

Glu Val Val Asp Lys Ala Asn Arg Asp Met Ala Ser Ile Val Ser Glu 145 150 155 160

Ile Met Met Tyr Val Leu Ile Val Val Leu Thr Ile Trp Leu Val Ala 165 170 175

Glu Met Ile Tyr Cys Tyr Lys Lys Ile Ala Ala Ala Thr Glu Thr Ala 180 185 190

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Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp 65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys 85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu 100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His 115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val 130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr 145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala 165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn 180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val 195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Gln Ala 210 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala 225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val 245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly 260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe 275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly 290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile 305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu Page 177

335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile $340 \hspace{1cm} 345 \hspace{1cm} 350$

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp 355 360 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp 370 375 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr 385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu 405 410 415

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn 420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln 435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala 450 455 460 .

Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile 465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys 485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Gln Lys Glu 500 505 510

Gln Ser Gly Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser 515 520 525

Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser 530 540

Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu 545 550 560

Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser 565 570 575

Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp 580 585 590

Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg Page 178

SSCP Update Sequences.ST25 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn 610 620 val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met 625 630 640 Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu 645 650 Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu 660 665 670 Gly Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr 675 680 685 His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala 690 695 700 Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu 705 710 715 720 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys 725 730 735 Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val 740 745 750 Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys 755 760 765 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr 770 780 Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly 785 790 795 Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr 805 810 810 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser 820 825 830 Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val 835 840 845 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp 850 . 855 860 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser val Gly Ala WO 2005/014863

·865

SSCP Update Sequences.ST25 870 875

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Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala 885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys 900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe $915 \\ 920 \\ 925$

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile 930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu 945 950 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn 965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala 980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly 995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu 1010 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu 1025 1030 1035

Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile 1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu 1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu 1070 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn 1085 1090 1095

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp 1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met 1115 1120 1125

Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly Page 180

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu 1145 1150 1155

Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu 1160 1170

Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu 1175 1180 1185

Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys 1190 1200

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile 1205 1210 1215

Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu 1220 1230

Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val 1235 1240 1245

Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala 1250 1260

Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp 1265 1270 1275

Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala 1280 1285 1290

Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu 1295 1300 1305

Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met 1310 1315 1320

Arg Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met 1325 1330 1335

Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile 1340 1345 1350

Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn 1355 1360 1365

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr 1370 1375 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp Page 181 SSCP Update Sequences.ST25 1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu 1400 1410

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met 1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr 1430 1435 1440

Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile 1445 1450 1455

Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile 1460 1465 1470

Asp Asn Phe Asn Gln Gln Lys Lys Phe Gly Gln Asp Ile 1475 1480 1485

Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys 1490 1500

Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn 1505 1510 1515

Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe 1520 1530

Asp Ile Ser Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met 1535 1540 1545

Met Val Glu Thr Asp Asp Gln Ser Gln Ĝlu Met Thr Asn Ile Leu 1550 1560

Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys 1565 1570 1575

Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Phe Thr Ile Gly 1580 1590

Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly 1595 1600 1605

Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr 1610 1620

Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg 1625 1630 1635

Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Page 182 SSCP Update Sequences.ST25 1640 1645 1650

Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe 1655 1660 1665 Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala 1670 1675 1680 Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu 1685 1690 1695 Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser 1700 1710 Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro 1715 1720 1725 Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys 1730 1740 Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Val Ser 1745 1750 1755 Tyr Ile Ile Ile Ser Phe Leu Val Val Leu Asn Met Tyr Ile Ala 1760 1765 1770 Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu 1775 1780 1785 Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu 1790 1800 Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys 1820 1825 1830 Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser 1835 1840 1845 Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys 1850 1855 1860 Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln 1865 1870 1875 Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr 1880 1885 1890 Glu Pro Ile Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser

SSCP Update Sequences.ST25

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Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys 1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys 1940 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser 1955 1960 1965

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Homo sapiens

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Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe 50 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp 65 70 75

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys 85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu 100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His 115 120 125 Page 184

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val 130 140 Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr 145 150 155 160 Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala 165 170 175 Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn $180 \hspace{1cm} 185 \hspace{1cm} 190$ Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val 195 200 205 Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala 210 215 220 Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala 225 230 235 Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val 245 250 255 Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly 260 270 Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe 275 280 285 Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly 290 295 300 Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile 305 310 315 320Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu 325 330 Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile 340 345Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp 355 360 365 Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp 370 375 380 Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr 385 395 400 Page 185

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu 405 410 415 Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn 420 430 Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln 435 440 445 Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala 450 455 460 Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile 465 470 475 480 Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys 485 490 495 Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Gln Lys Glu 500 505 510 Gln Ser Gly Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser 515 520 525 Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser 530 540 Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu 545 550 560 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser 565 570 575 Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp 580 585 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg 595 600 605 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn 610 620 Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met 625 630 640 Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu 645 650 655 Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu 660 670

Gly Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr 675 680 His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala 690 695 700 Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu 705 710 715 720 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys 725 730 735 Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val 740 745 750 Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala ile Thr Ile Cys 755 760 765 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr 770 775 780 Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly 785 790 795 800 Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr 805 810 815 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser 820 825 830 Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val 835 840 845 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp 850 855 860 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala 865 870 880 Leu GTy Asn Leu Thr Leu Val Leu Ala Ile Ile Ile Phe Ile Phe Ala 885 890 895 Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys 900 905 Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe 915 920 925 Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile 930 940

- Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu 945 950 960
- Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn 965 970 975
- Leu Phe Leu Ala Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala 980 985 990
- Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly 995 1000 1005
- Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu 1010 1015 1020
- Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu 1025 1030 1035
- Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile 1040 1045 1050
- Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu 1055 1060 1065
- Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu 1070 1080
- Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn 1085 1090 1095
- Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp 1100 1105 1110
- Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met 1115 1120 1125
- Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Glu Gly 1130 1135 1140
- Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu 1145 1150 1155
- Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu 1160 1165 1170
- Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu 1175 . 1180 1185
- Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys 1190 1195 1200 Page 188

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Leu	Leu 1220	Ser	Ser	Glу	ΑΊa	Leu 1225	Ala	Phe	Glu	Asp	Ile 1230	туг	Ile	Glu
Gln	Arg 1235	Lys	Thr	ıle	Lys	Thr 1240	Met	Leu	G]u	Tyr	Ala 1245	Asp	Lys	۷al
Phe	Thr 1250	Tyr	Ile	Phe	Ile	Leu 1255	Glu	Met	Leu	Leu	Lys 1260	Trp	val	Ala
Tyr	Gly 1265	Phe	G∏n	Val	Tyr	Phe 1270	Thr	Asn	Αla	тгр	Cys 1275	Тгр	Leu	Asp
Phe	Leu 1280	Ile	٧a٦	Asp	Val	ser 1285	Leu	Val	ser	Leu	Thr 1290	Αla	Asn	Ala
Leu	Gly 1295	туг	Ser	Glu	Leu	Gly 1300	Ala	Ile	Lys	Ser	Leu 1305	Arg	Thr	Leu
Arg	Ala 1310	Leu	Arg	Pro	Leu	Arg 1315	Ala	Leu.	ser	Arg	Phe 1320	Glu	Gly,	Met
Arg	Val 1325	٧a٦	val	Asn	Αla	Leu 1330	Leu	Gly	Ala ·.	Ile	Pro 1335	Ser	ije	Met
Asn	val 1340	Leu	Leu	val	Cys	Leu 1345	Ile	Phe	Тгр	Leu	Ile 1350	Phe	Ser	Ile
Met	Gly 1355	٧a٦	Asn	Leu	Phe	А]а 1360	Glу	Lys	Phe	Tyr	His 1365	Cys	Ile	Asn
Tyr	Thr 1370	Thr	Glу	Glu	Met	Phe 1375	Asp	٧a٦	Ser	٧a٦	Val 1380	Asn	Asn	Тур
Ser	Glu 1385		Lys	ΑΊа	Leu	Ile 1390	Glu	Ser	Asn	Gln	Thr 1395	Ala	Arg	Тгр
Lys	Asn 1400		Lys	۷a1	Asn	Phe 1405	Asp	Asn	∨al	Gly	Leu 1410	ĢÌy	туг	Leu
Ser	Leu 1415		GÌn	۷a٦	۸Ìa	Thr 1420	Phe	Lys	Gly	Trp	Met 1425	Asp	Ile	Met
Tyr	Ala 1430		val	Asp	Ser	Arg 1435	Asn	٧a٦	Glu	Leu	Gln 1440	Pro	Lys	Tyr
Glu	.Asp 1445	Asn	Leu	Туг	Met	Туг 1450	Leu		Phe age		Ile 1455	Phe	Ile	Ile

Phe	Gly 1460	Ser	Phe	Phe	Thr	Leu 1465	Asn	Leu	Phe	Ile	Gly 1470	Val	Ile	Ile
Asp	Asn 1475	Phe	Asn	Gln	G]n	Lys 1480	Lys	Lys	Phe	Gly	Gly 1485	Gln	Asp	Ile
Phe	Met 1490	Thr	Glu	Glu	Gln	Lys 1495	Lys	Tyr	туг	Asn	Ala 1500	Met	Ľys	Lys
Leu	Gly 1505	Ser	Lys	Lys	Pro	G]n 1510		Pro	Ile	Pro	Arg 1515	Pro	Ala	Asn
Lys	Phe 1520	Gln	Gly	Met	Val	Phe 1525	Asp	Phe	Val	Thr	Lys 1530	Gln	۷al	Phe
Asp	Ile 1535	Ser	Ile	Met	Ile	Leu 1540	Ile	Cys	Leu	Asn	Met 1545	٧a٦	Thr	Met
Met	∨al 1550	Glu	Thr	Asp	Asp	Gln 1555	Ser	Gln	Glu	Met	Thr 1560	Asn	Ile	Leu
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Trp	Asn 1595	Ile	Phe	Asp	Phe	∨a7 1600	val	val	Ile	Leu	ser 1605	Ile	Val	Gly
Met	Phe 1610		ΑΊа	Glu	Leu	Ile 1615	Glu	Lys	Tyr	Phe	Val 1620	Ser	Pro	Thr
Leu	Phe 1625	Arg	val	Ile	Arg	Leu 1630	Аlа	Arg	Ile	Gly	Arg 1635	Ile	Leu	Arg
Leu	Ile 1640		Gly	Аlа	Lys	Gly 1645	Ile	Arg	Thr	Leu	Leu 1650	Phe	Αla	L:eu
Met	меt 1655		Leu	Pro	Ala	Leu 1660	Phe	Asn	Ile	Gly	Leu 1665	Leu	Leu	Phe
Leu	Val 1670		Phe	Ile	Tyr	Ala 1675		Phe	Gly	Met	Ser 1680	Asn	Phe	Ala
Tyr	Val 1685		Arg	Glu	٧a٦	Gly 1690	Ile	Asp	Asp	Met	Phe 1695	Asn	Phe	Glu
Thr	Phe 1700		Asn	Ser	Met	11e 1705	Cys		Phe age		Ile 1710	Thr	Thr	Ser

- Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro 1715 1720 1725
- Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys 1730 1735 1740
- Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser 1745 1750 1755
- Tyr Ile Ile Ile Ser Phe Leu Val Val Leu Asn Met Tyr Ile Ala 1760 1765 1770
- Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu 1775 1780 1785
- .Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu 1790 1800
- Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu 1805 1810 1815
- Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys 1820 1830
- Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser 1835 1840 1845
- Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys 1850 1855
- Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln 1865 1870 1875
- Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr 1880 1885 1890
- Glu Pro Ile Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser 1895 1900 1905
- Ala Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln 1910 1915 1920
- Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys 1925 1930
- Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys 1940 1945 1950
- Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser 1955 1960 1965 Page 191

Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys 1970 1980

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Lys Ala Lys Arg Pro Lys Gln Glu Arg Lys Asp Glu Asp Asp Glu Asn 35 40 45

Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe 50 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp 65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu 100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His 115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val 130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr 145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala 165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn 180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val 195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala 210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala 225 230 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val 245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly 260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe 275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly 290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile 305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu 325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile 340 345 350

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp 370 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr 385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu 405 410 415

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn 420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln 435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala 450 455 460

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500 505 510 Gln Ser Gly Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser 515 520 Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser 530 540 Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu 545 550 560 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser 575 Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp 580 585Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg 595 600 605 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn 610 615 620 Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met 625 630 635 640 Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu 645 650 655 Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu 660 670 Gly Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr 675 680 685 His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala 690 695 700 Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu 705 710 715 720 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys 725 730 735

Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val 740 745 750

Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys 755 760 765

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr 770 780

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly 785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr 805 810 815

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser 820 825

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val 835 840 845

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp 850 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala 865 870 875

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala 885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys 900 \ 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe 915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile 930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu 945 950 950 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn 965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala 980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Ile Gln Ile Ala Val Gly 995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu 1010 1020 Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu 1025 1030 Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu 1055 1060 Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu 1070 1080 Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn 1085 1095 Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp 1100 1105 1110 Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met 1115 1120 1125 Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Glu Gly 1130 1140 Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu 1145 1150 1155 Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu 1160 1165 1170 Asp Cys Val Arg Lys Phe Lys Cys Gln Ile Ser Ile Glu Glu 1175 1180 1185 Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys 1190 1200 Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile 1205 1210 1215 Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu 1220 1230 Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val 1235 1240 1245

Page 196

Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala 1250 1260

Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp 1265 1270 1275

Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala 1280 1285 1290

Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu 1295 1300 1305

Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met 1310 1320

Arg Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met 1325 1330 1335

Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile 1340 1345 1350

Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn 1355 1360 1365

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr 1370 1375 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp 1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu 1400 1405 1410

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met 1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr 1430 1435 1440

Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile 1445 1450 1455

Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile 1460 1465 1470

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Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys 1490 1495 1500

Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn 1505 1510 1515

Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe 1520 1530

Met Val Glu Thr Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu 1550 1560

Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys 1565 1570 1575

Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Tyr Phe Thr Ile Gly 1580 1590

Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly 1595 1600 1605

Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr 1610 1615 1620

Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg 1625 1630 1635

Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu 1640 1645 1650

Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe 1655 1660 1665

Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala 1670 1675 1680

Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu 1685 1690 1695

Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser 1700 1710

Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro 1715 1720 1725

Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys 1730 1740

Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser 1745 1750 1755

Tyr Ile Ile Ser Phe Leu Val Val Leu Asn Met Tyr Ile Ala 1760 1765 1770

Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu 1775 1780 1785

Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu 1790 1800

Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu 1805 1810 1815

Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys 1820 1825 1830

Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser 1835 1840 1845

Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys 1850 1855 1860

Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln 1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr 1880 1885 1890

Glu Pro Ile Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser 1895 1900 1905

Ala Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln 1910 1915 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys 1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys 1940 1945 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser 1955 1960 1965

Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys 1970 1980

Glu Lys Phe Glu Lys Asp Lys Ser Glu Lys Glu Asp Lys Gly Lys 1985 1990 1995

Asp Ile Arg Glu Ser Lys Lys 2000 2005

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Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Gln Arg Ile Ala Glu Glu 20 25

Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe 50 55 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp 65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys $90 \hspace{1.5cm} 95$

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu 100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His 115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val 130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr 145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala 165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn 180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val 195 . 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala 210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala 225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val 245 250 255 SSCP Update Sequences.ST25
Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly
260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe 275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly 290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile 305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu 325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile 340 345 350

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp 355 360 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp 370 375 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr 385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu $405 \hspace{1.5cm} 410 \hspace{1.5cm} 415$

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn 420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln 435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala A50 455 460

Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile 465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys 485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Gln Lys Glu 500 505

Gln Ser Gly Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser 515 520 525

SSCP Update Sequences.ST25
Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser
530 540 Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu 545 550 555 560 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser 575 Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp 580 585 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg 595 600 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn 610 620 Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met 625 630 640 Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu 645 650 655 Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu 660 665 670 Gly Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr 675 680 685 His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala 690 695 700 Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu 705 715 720 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys 725 730 735 Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val 740 745 Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys 755 760 765 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr 770 780 Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly 785 790 795 800

- SSCP Update Sequences.ST25

 Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr
 805
 810
 815
- Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser 820 825 830
- Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val 835 840 845
- Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp 850 860
- Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala 865 870 875 880
- Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala 885 890 895
- val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys $900 \hspace{1.5cm} 905 \hspace{1.5cm} 910$
- Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe 915 920 925
- Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile 930 935 940
- Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu 945 950 960
- Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn 965 970 975
- Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala 980 985 990
- Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly 995 1000
- Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu 1010 1020
- Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu 1025 1030 1035
- Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile 1040 1045 1050
- Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu 1055 1060 1065

- SSCP Update Sequences.ST25

 Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu
 1070 1075 1080
- Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn 1085 1090 1095
- Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp 1100 1105 1110
- Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met 1115 1120 1125
- Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly 1130 1140
- Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu 1145 1150 1155
- Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu 1160 1165 1170
- Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu 1175 1180 1185
- Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Ala Cys Tyr Lys 1190 1200
- Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile 1205 1210 1215
- Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu 1220 1230
- Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val 1235 1240 1245
- Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Lys Trp Val Ala 1250 1260
- Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp 1265 1270 1275
- Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala 1280 1285 1290
- Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu 1295 1300 1305
- Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met 1310 1320

SSCP Update Sequences.ST25

Arg Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met
1325
1330
1335

Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile 1340 1345 1350

Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn 1355 1360 1365

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr 1370 1375 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp 1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu 1400 1405

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met 1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr 1430 1440

Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile 1445 1455

Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile 1460 1470

Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile 1475 1480 1485

Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys 1490 1495 1500

Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn 1505 1510 1515

Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe 1520 1530

Asp Ile Ser Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met 1535 1540 1545

Met Val Glu Thr Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu 1550 1560

Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys 1565 1570 1575

- SSCP Update Sequences.ST25

 Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Phe Thr Ile Gly
 1580 1585 1590
- Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly 1595 1600 1605
- Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr 1610 1620
- Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg 1625 1630 1635
- Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu 1640 1650
- Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Phe 1655 1660 1665
- Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala 1670 1675 1680
- Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu 1685 1690 1695
- Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser 1700 1705 1710
- Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro 1715 1720 1725
- Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys 1730 1740
- Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser 1745 1750 1755
- Tyr Ile Ile Ile Ser Phe Leu Val Val Leu Asn Met Tyr Ile Ala 1760 1770
- Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu 1775 1780 1785
- Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu 1790 1800
- Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu 1805 1810 1815
- Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys 1820 1830 .

SSCP Update Sequences.ST25
Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser
1835 1840 1845

Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys 1850 . 1855

Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln 1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr 1880 1885 1890

Glu Pro Ile Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser 1895 1900 1905

Ala Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln 1910 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys 1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys 1940 1945 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser 1955 1960 1965

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Asp Ile Arg Glu Ser Lys Lys 2000 2005

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2005

PRT Homo sapiens

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Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp 65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys 85 90

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu 100 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His 115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val 130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr 145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala 170 175. .

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn 180 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val 195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala 210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala 225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val 245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly 260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe 275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly 290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile 305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu Page 208

SSCP Update Sequences.ST25 330

35

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile 340 345 350 Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp 355 360 365 Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp 370 380 Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr 385 390 395 400 Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu 405 410 415 Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn 420 425 430 Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln 435 445Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala 450 455 460 Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile 465 470 475 480 Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys 485 490 495 Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Gln Lys Glu 500 505 Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser 515 520 525 Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser 530 540 Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu 545 550 555 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser 565 570 575 Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp 580 585 590 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg

SSCP Update Sequencés.ST25 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn 610 620 Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met 625 630 640 Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu 645 650 655 Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu 660 670 Gly Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr 675 680 685 His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala 690 695 700 Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu 705 710 715 720 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys 725 730 735 Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val 740 750 Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys 765 765 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr 770 780 Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly 785 790 795 800 Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr 805 810 815 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser 820 825 830 Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val 835 840 845 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp 850 860 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala Page 210

870

SSCP Update Sequences.ST25 875

880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala 885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys 900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe 915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile 930 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu 945 950 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn 965 970 975

Leu Phe Leu Ala Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala 980 985

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly 995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu 1010 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu 1025 1030 1035

Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile 1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu 1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu 1070 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn 1085 1090

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp 1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met 1115 1120

Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly Page 211 WO 2005/014863

1130

SSCP Update Sequences.ST25 1135 1140

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu 1145 1150 1155

Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu 1160 1170

Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu 1175 1180 1185

Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys 1190 1200

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile 1205 1210 1215

Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu 1220 1230

Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val 1235 1240 1245

Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala 1250 1260

Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp 1265 1270 1275

Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala 1280 1285

Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu 1295 1300 1305

Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Gln Phe Glu Gly Met 1310 1320

Arg Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met 1325 1330 1335

Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile 1340 1345 1350

Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn 1355 1360 1365

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr 1370 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp Page 212 SSCP Update Sequences.ST25 1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu 1400 1405

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met 1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr 1430 1440

Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile 1445 1450

Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile 1460 1465 1470

Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gln Asp Ile 1475 1480 1485

Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys 1490 1495

Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn 1505 1510 1515

Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe 1520 1530

Asp Ile Ser Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met 1535 1540 1545

Met Val Glu Thr Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu 1550 1560

Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys 1565 1570 1575

Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Phe Thr Ile Gly 1580 1585 1590

Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly 1595 1600 1605

Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr 1610 1620

Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg 1625 1630 1635

Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Page 213

SSCP Update Sequences.ST25

Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Phe 1655 1660 1665

Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala 1670 1680

Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu 1685 1690 1695

Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser 1700 1710

Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro 1715 1720 1725

Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys 1730 1735 1740

Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Val Ser 1745 1750 1755

Tyr Ile Ile Ile Ser Phe Leu Val Val Leu Asn Met Tyr Ile Ala 1760 1770

Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu 1775 1780 1785

Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu 1790 1800

Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu 1805 1810 1815

Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys 1820 1830

Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser 1835 1840 1845

Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys 1850 1855 1860

Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln 1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr 1880 1885 1890

Glu Pro Ile Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Page 214

SSCP Update Sequences.ST25 1900 1905

Ala Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln 1910 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys 1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys 1940 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser 1955 1960 1965

Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys 1970 1980

Glu Lys Phe Glu Lys Asp Lys Ser Glu Lys Glu Asp Lys Gly Lys 1985 1990 1995

Asp Ile Arg Glu Ser Lys Lys 2000 2005

<210> 88

<211> 468

<213> Homo sapiens

<400> 88

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Ala Arg Arg Gly Leu Ser Glu Pro Ser Ser Ile Ala Lys His Glu Asp 35 40 45

Ser Leu Leu Lys Asp Leu Phe Gln Asp Tyr Glu Arg Trp Val Arg Pro 50 60

Val Glu His Leu Asn Asp Lys Ile Lys Ile Lys Phe Gly Leu Ala Ile 65 70 75 80

Ser Gln Leu Val Asp Val Asp Glu Lys Asn Gln Leu Met Thr Thr Asn 90 95

Val Trp Leu Lys Gln Glu Trp Ile Asp Val Lys Leu Arg Trp Asn Pro 100 . 110

Asp Asp Tyr Gly Gly Ile Lys Val Ile Arg Val Pro Ser Asp Ser Ser 115 120 125 Page 215

Trp Thr Pro Asp Ile Ile Leu Phe Asp Asn Ala Asp Gly Arg Phe Glu 130 135 140 Gly Thr Ser Thr Lys Thr Val Ile Arg Tyr Asn Gly Thr Val Thr Trp 145 150 155 160 Thr Pro Pro Ala Asn Tyr Lys Ser Ser Cys Thr Ile Asp Val Thr Phe 165 170 175 Phe Pro Phe Asp Leu Gln Asn Cys Ser Met Lys Phe Gly Ser Trp Thr 180 185 190 Tyr Asp Gly Ser Gln Val Asp Ile Ile Leu Glu Asp Gln Asp Val Asp 195 200 205 Lys Arg Asp Phe Phe Asp Asn Gly Glu Trp Glu Ile Val Ser Ala Thr 210 220 Gly Ser Lys Gly Asn Arg Thr Asp Ser Cys Cys Trp Tyr Pro Tyr Val 225 230 235 Thr Tyr Ser Phe Val Ile Lys Arg Leu Pro Leu Phe Tyr Thr Leu Phe 245 250 255 Leu Ile Ile Pro Cys Ile Gly Leu Ser Phe Leu Thr Val Leu Val Phe 260 265 270 Tyr Leu Pro Ser Asn Glu Gly Glu Lys Ile Cys Leu Cys Thr Ser Val 275 280 285 Leu Val Ser Leu Thr Val Phe Leu Leu Val Ile Glu Glu Ile Ile Pro 290 295 300 Ser Ser Ser Lys Val Ile Pro Leu Ile Gly Glu Tyr Leu Val Phe Thr 305 310 315 Met Ile Phe Val Thr Leu Ser $_{\star}$ Ile Met Val Thr Val Phe Ala Ile Asn 325 330 Ile His His Arg Ser Ser Ser Thr His Asn Ala Met Ala Pro Leu Val Arg Lys Ile Phe Leu His Thr Leu Pro Lys Leu Leu Ser Met Arg Ser 355 360 365 His Val Asp Arg Tyr Phe Thr Gln Lys Glu Glu Thr Glu Ser Gly Ser 370 380 Gly Pro Lys Ser Ser Arg Asn Thr Leu Glu Ala Ala Leu Asp Ser Ile 385 390 400 Page 216

Arg Tyr Ile Thr Thr His Ile Met Lys Glu Asn Asp Val Arg Glu Val 405 415

Val Glu Asp Trp Lys Phe Ile Ala Gln Val Leu Asp Arg Met Phe Leu 420 425 430

Trp Thr Phe Leu Phe Val Ser Ile Val Gly Ser Leu Gly Leu Phe Val 435 440 445

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Asn Ala Asn Lys 465

<210> <211> 529

PRT

Homo sapiens

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Trp Trp Leu Leu Thr Pro Ala Gly Gly Glu Glu Ala Lys Arg Pro 20 30

Pro Pro Arg Ala Pro Gly Asp Pro Leu Ser Ser Pro Ser Pro Thr Ala 35 40 45

Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp Arg Leu Phe Lys 50 60

His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg Pro Val Pro Asn Thr 65 70 75 80

Ser Asp Val Val Ile Val Arg Phe Gly Leu Ser Ile Ala Gln Leu Ile 85 90 95

Asp Val Asp Glu Lys Asn Gln Met Met Thr Thr Asn Val Trp Leu Lys 100 105 110

Gln Glu Trp Ser Asp Tyr Lys Leu Arg Trp Asn Pro Thr Asp Phe Gly 115 120

Asn Ile Thr Ser Leu Arg Val Pro Ser Glu Met Ile Trp Ile Pro Asp 130 135 140

Ile Val Leu Tyr Asn Asn Ala Asp Gly Glu Phe Ala Val Thr His Met 145 150 155 160

Thr Lys Ala His Leu Phe Ser Thr Gly Thr Val His Trp Val Pro Pro 165 170 175 Ala Ile Tyr Lys Ser Ser Cys Ser Ile Asp Val Thr Phe Phe Pro Phe 180 190 Asp Gln Gln Asn Cys Lys Met Lys Phe Gly Ser Trp Thr Tyr Asp Lys 195 200 205 Ala Lys Ile Asp Leu Glu Gln Met Glu Gln Thr Val Asp Leu Lys Asp 210 220 Tyr Trp Glu Ser Gly Glu Trp Ala Ile Val Asn Ala Thr Gly Thr Tyr 225 230 235 Asn Ser Lys Lys Tyr Asp Cys Cys Ala Glu Ile Tyr Pro Asp Val Thr 245 255 Tyr Ala Phe Val Ile Arg Arg Leu Pro Leu Phe Tyr Thr Ile Asn Leu 260 265 270 Ile Ile Pro Cys Leu Leu Ile Ser Cys Leu Thr Val Leu Val Phe Tyr 275 280 285 Leu Pro Ser Asp Cys Gly Glu Lys Ile Thr Leu Cys Ile Ser Val Leu 290 295 300 Leu Ser Leu Thr Val Phe Leu Leu Leu Ile Thr Glu Ile Ile Pro Ser 305 310 315 320 Thr Ser Leu Val Ile Pro Leu Ile Gly Glu Tyr Leu Leu Phe Thr Met 325 330 335Ile Phe Val Thr Leu Ser Ile Val Ile Thr Val Phe Val Leu Asn Val 340 345His His Arg Ser Pro Ser Thr His Thr Met Pro His Trp Val Arg Gly 355 360 365 Ala Leu Leu Gly Cys Val Pro Arg Trp Leu Leu Met Asn Arg Pro Pro 370 380 Pro Pro Val Glu Leu Cys His Pro Leu Arg Leu Lys Leu Ser Pro Ser 385 395 400 Tyr His Trp Leu Glu Ser Asn Val Asp Ala Glu Glu Arg Glu Val Val 405 410 415

Page 218

Val Glu Glu Asp Arg Trp Ala Cys Ala Gly His Val Ala Pro Ser 420 425 430

Val Gly Thr Leu Cys Ser His Gly His Leu His Ser Gly Ala Ser Gly 435 440 445

Pro Lys Ala Glu Ala Leu Leu Gln Glu Gly Glu Leu Leu Leu Ser Pro 450 455 460

His Met Gln Lys Ala Leu Glu Gly Val His Tyr Ile Ala Asp His Leu 465 470 475 480

Arg Ser Glu Asp Ala Asp Ser Ser Val Lys Glu Asp Trp Lys Tyr Val 485 490 495

Ala Met Val Ile Asp Arg Ile Phe Leu Trp Leu Phe Ile Ile Val Cys $500 \hspace{1cm} 505 \hspace{1cm} 510$

Phe Leu Gly Thr Ile Gly Leu Phe Leu Pro Pro Phe Leu Ala Gly Met 515 520 525

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<210> 90

<211> 505

<213> Homo sapiens

<400> 90

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Glu Ala Glu His His Leu Phe Glu Arg Leu Phe Glu Asp Tyr Asn Glu 35 40 45

Ile Ile Arg Pro Val Ala Asn Val Ser Asp Pro Val Ile Ile His Phe 50 60

Glu Val Ser Met Ser Gln Leu Val Lys Val Asp Glu Val Asn Gln Ile 65 70 80

Met Glu Thr Asn Leu Trp Leu Lys Gln Ile Trp Asn Asp Tyr Lys Leu 85. 90 95

Lys Trp Asn Pro Ser Asp Tyr Gly Gly Ala Glu Phe Met Arg Val Pro 100 105

Ala Gln Lys Ile Trp Lys Pro Asp Ile Val Leu Tyr Asn Asn Ala Val 115 120 125 Gly Asp Phe Gln Val Asp Asp Lys Thr Lys Ala Leu Leu Lys Tyr Thr 130 135 140

Gly Glu Val Thr Trp Ile Pro Pro Ala Ile Phe Lys Ser Ser Cys Lys 145 150 155 160

Ile Asp Val Thr Tyr Phe Pro Phe Asp Tyr Gln Asn Cys Thr Met Lys 165 170 175

Phe Gly Ser Trp Ser Tyr Asp Lys Ala Lys Ile Asp Leu Val Leu Ile 180 185 190

Gly Ser Ser Met Asn Leu Lys Asp Tyr Trp Glu Ser Gly Glu Trp Ala 195 200 205

Ile Ile Lys Ala Pro Gly Tyr Lys His Asp Ile Lys Tyr Asn Cys Cys
210 220

Glu Glu Ile Tyr Pro Asp Ile Thr Tyr Ser Leu Tyr Ile Arg Arg Leu 225 230 240

Pro Leu Phe Tyr Thr Ile Asn Leu Ile Ile Pro Cys Leu Leu Ile Ser 245 250 255

Phe Leu Thr Val Leu Val Phe Tyr Leu Pro Ser Asp Cys Gly Glu Lys 260 265 270

Val Thr Leu Cys Ile Ser Val Leu Leu Ser Leu Thr Val Phe Leu Leu 275 280 285

Val Ile Thr Glu Thr Ile Pro Ser Thr Ser Leu Val Ile Pro Leu Ile 290 295 300

Gly Glu Tyr Leu Leu Phe Thr Met Ile Phe Val Thr Leu Ser Ile Val 305 \$310\$ 315 320

Ile Thr Val Phe Val Leu Asn Val His Tyr Arg Thr Pro Thr Thr His 325 330 335

Thr Met Pro Ser Trp Val Lys Thr Val Phe Leu Asn Leu Leu Pro Arg 340 345 350

Val Met Phe Met Thr Arg Pro Thr Ser Asn Glu Gly Asn Ala Gln Lys $355 \hspace{1cm} 360 \hspace{1cm} 365$

Pro Arg Pro Leu Tyr Gly Ala Glu Leu Ser Asn Leu Asn Cys Phe Ser 370 380

Arg Ala Glu Ser Lys Gly Cys Lys Glu Gly Tyr Pro Cys Gln Asp Gly 385 390 400

SSCP Update Sequences.ST25

Met Cys Gly Tyr Cys His His Arg Arg Ile Lys Ile Ser Asn Phe Ser
405
410
415

Ala Asn Leu Thr Arg Ser Ser Ser Ser Glu Ser Val Asp Ala Val Leu 420 425

Ser Leu Ser Ala Leu Ser Pro Glu Ile Lys Glu Ala Ile Gln Ser Val 435 440 445

Lys Tyr Ile Ala Glu Asn Met Lys Ala Gln Asn Glu Ala Lys Glu Ile 450 460

Gln Asp Asp Trp Lys Tyr Val Ala Met Val Ile Asp Arg Ile Phe Leu 465 470 480

Trp Val Phe Thr Leu Val Cys Ile Leu Gly Thr Ala Gly Leu Phe Leu 485 490 495

Gln Pro Leu Met Ala Arg Glu Asp Ala 500 505

<210> 91

<211> 118

<212> PRT <213> Homo sapiens

<400> 91

Met Val Gln Lys Ser Arg Asn Gly Gly Val Tyr Pro Gly Pro Ser Gly 10 15

Glu Lys Lys Leu Lys Val Gly Phe Val Gly Leu Asp Pro Gly Ala Pro 20 25 30

Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala 50 60

Gly Lys Pro Pro Gln Ala Gln Arg Leu Leu Pro Gln Ala Ala Glu Phe 65 70 75 80

Pro Leu Gl
n Arg Ala Gly Ala Ala Ala Arg Leu Gly Val His Leu Pro
 $85\,$ 90 $95\,$

Arg Leu Arg Val Pro Pro Gly Phe Leu Leu Pro Arg Ala Val Cys Val

Phe His His Gln Gly Val

<210> 92

<211> 854

<213> Homo sapiens

<400> 92

Met Val Gln Lys Ser Arg Asn Gly Gly Val Tyr Pro Gly Pro Ser Gly 10 15

Glu Lys Lys Leu Lys Val Gly Phe Val Gly Leu Asp Pro Gly Ala Pro 20 25 30

Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro 35 40

Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala 50 60

Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe 70 75 80

Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His 85 90 95

Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe 100 105 110

Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile 115 120 125

Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg 130 135 140

Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg 145 150 155 160

Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu 165 170 175

Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe 180 185 190

Ala Thr Ser Ala Leu Arg Sér Leu Arg Phe Leu Gln Ile Leu Arg Met 195 200 205

Ile Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val 210 215 220

Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe 225 230 235 240

Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly 245 250 255 Page 222

Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu 260 265 270 Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp 275 280 285 Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe 290 295 300 Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val 305 310 315Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala 325 330 335 Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser 340 350Gly Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr 355 360 365 Val Pro Met Tyr Ser Ser Gln Thr Gln Thr Tyr Gly Ala Ser Arg Leu 370 380 Ile Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys 385 390 400 Ser Gly Leu Ala Phe Arg Lys Asp Pro Pro Glu Pro Ser Pro Ser 410 415 Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro Arg Gly Val 420 425 430 Ala Ala Lys Gly Lys Gly Ser Pro Gln Ala Gln Thr Val Arg Arg Ser 435 440 445 Pro Ser Ala Asp Gln Ser Leu Glu Asp Ser Pro Ser Lys Val Pro Lys 450 460 Ser Trp Ser Phe Gly Asp Arg Ser Arg Ala Arg Gln Ala Phe Arg Ile 465 470 480 Lys Gly Ala Ala Ser Arg Gln Asn Ser Glu Glu Ala Ser Leu Pro Gly 485 490 495 Glu Asp Ile Val Asp Asp Lys Ser Cys Pro Cys Glu Phe Val Thr Glu 500 505 Asp Leu Thr Pro Gly Leu Lys Val Ser Ile Arg Ala Val Cys Val Met 515 520 525 Page 223

Phe Leu Val Ser Lys Arg Lys Phe Lys Glu Ser Leu Arg Pro Tyr 530 540 Asp Val Met Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met 545 550 555 Leu Ser Arg Ile Lys Ser Leu Gln Ser Arg Val Asp Gln Ile Val Gly 565 570 Arg Gly Pro Ala Ile Thr Asp Lys Asp 'Arg Thr Lys Gly Pro Ala Glu 580 590 Ala Glu Leu Pro Glu Asp Pro Ser Met Met Gly Arg Leu Gly Lys Val 595 600 Glu Lys Gln Val Leu Ser Met Glu Lys Lys Leu Asp Phe Leu Val Asn 610 620 Ile Tyr Met Gln Arg Met Gly Ile Pro Pro Thr Glu Thr Glu Ala Tyr 625 630 635 640 Phe Gly Ala Lys Glu Pro Glu Pro Ala Pro Pro Tyr His Ser Pro Glu 645 650 655 Asp Ser Arg Glu His Val Asp Arg His Gly Cys Ile Val Lys Ile Val 660 665 670 Arg Ser Ser Ser Thr Gly Gln Lys Asn Phe Ser Ala Pro Pro Ala 675 680 685 Ala Pro Pro Val Gln Cys Pro Pro Ser Thr Ser Trp Gln Pro Gln Ser 690 695 700 His Pro Arg Gln Gly His Gly Thr Ser Pro Val Gly Asp His Gly Ser 705 710 715 720 Leu Val Arg Ile Pro Pro Pro Pro Ala His Glu Arg Ser Leu Ser Ala 725 730 735 Tyr Gly Gly Asn Arg Ala Ser Met Glu Phe Leu Arg Gln Glu Asp 740 745 750 Thr Pro Gly Cys Arg Pro Pro Glu Gly Thr Leu Arg Asp Ser Asp Thr 755 760 765 Ser Ile Ser Ile Pro Ser Val Asp His Glu Glu Leu Glu Arg Ser Phe 770 780 Ser Gly Phe Ser Ile Ser Gln Ser Lys Glu Asn Leu Asp Ala Leu Asn 785 790 795 800 Page 224

Ser Cys Tyr Ala Ala Val Ala Pro Cys Ala Lys Val Arg Pro Tyr Ile 805 810

Ala Glu Gly Glu Ser Asp Thr Asp Ser Asp Leu Cys Thr Pro Cys Gly 820 825

Pro Pro Pro Arg Ser Ala Thr Gly Glu Gly Pro Phe Gly Asp Val Gly 835 840 845

Trp Ala Gly Pro Arg Lys 850

<210> 93

<211> 429 <212> PRT

<213> Homo sapiens

<400> 93

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Glu Lys Lys Leu Lys Val Gly Phe Val Gly Leu Asp Pro Gly Ala Pro 20 25 30

Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro 35 40 45

Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala 50 60

Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe 65 70 75 80

Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His 85 90 95

Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe 100 105 110

Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile 115 120 125

Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg 130 135 140

Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg 145 150 160

Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu 165 170 175

Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe 180 185 190

Ala Thr Ser Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met 195 200

Ile Arg Met Asp Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val 210 215 220

Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe 225 230 240

Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly 245 250 255

Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu 260 265 270

Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp 275

Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe 290 295 300

Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val 305 310 315

Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala 325 330 335

Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser 340 350

Arg Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr 355 365

Val Pro Met Tyr Ser Ser Gln Thr Gln Thr Tyr Gly Ala Ser Arg Leu 370 380

Ile Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys 385 390 400

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Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro

<211> 854

<213> Homo sapiens

<400> 94

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Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro 35 40 45

Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala 50 60

Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe 65 70 75

Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His 85 90 95

Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe 100 105 110

Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile 115 120 125

Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg 130 135 140

Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg 145 150 155 160

Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu 165 170 175

Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe 180 185 190

Ala Thr Ser Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met 195 200

Ile Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val 210 220

Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe 225 230 235 240

Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly 245 250 , 255 SSCP Update Sequences.ST25
Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu
260 265 270 Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp 275 280 285 Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe 290 295 Phé Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val 305 310 315 320 Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala 325 330 335 Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser 340 345 Arg Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr 355 360 365 Val Pro Met Tyr Ser Ser Gln Thr Gln Thr Tyr Gly Ala Ser Arg Leu 370 380 Ile Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys 385 390 400 Ser Gly Leu Ala Phe Arg Lys Asp Pro Pro Pro Glu Pro Ser Pro Ser 405 410 415Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro Arg Gly Val Ala Ala Lys Gly Lys Gly Ser Pro Gln Ala Gln Thr Val Arg Arg Ser 435 440 445 Pro Ser Ala Asp Gln Ser Leu Glu Asp Ser Pro Ser Lys Val Pro Lys 450 460 Ser Trp Ser Phe Gly Asp Arg Ser Arg Ala Arg Gln Ala Phe Arg Ile 465 470 475 480 Lys Gly Ala Ala Ser Arg Gln Asn Ser Glu Glu Ala Ser Leu Pro Gly
485 490 495 Glu Asp Ile Val Asp Asp Lys Ser Cys Pro Cys Glu Phe Val Thr Glu 500 505 510Asp Leu Thr Pro Gly Leu Lys Val Ser Ile Arg Ala Val Cys Val Met 515 520 525

SSCP Update Sequences.ST25

Arg Phe Leu Val Ser Lys Arg Lys Phe Lys Glu Ser Leu Arg Pro Tyr
530 535 540 Asp Val Met Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met 545 550 560 Leu Ser Arg Ile Lys Ser Leu Gln Ser Ser Val Asp Gln Ile Val Gly 565 570 Arg Gly Pro Ala Ile Thr Asp Lys Asp Arg Thr Lys Gly Pro Ala Glu 580 590 Ala Glu Leu Pro Glu Asp Pro Ser Met Met Gly Arg Leu Gly Lys Val 595 600 605 Glu Lys Gln Val Leu Ser Met Glu Lys Lys Leu Asp Phe Leu Val Asn 610 620 Ile Tyr Met Gln Arg Met Gly Ile Pro Pro Thr Glu Thr Glu Ala Tyr 625 630 635 640 Phe Gly Ala Lys Glu Pro Glu Pro Ala Pro Pro Tyr His Ser Pro Glu 645 650 655 Asp Ser Arg Glu His Val Asp Arg His Gly Cys Ile Val Lys Ile Val 660 665 670 Arg Ser Ser Ser Thr Gly Gln Lys Asn Phe Ser Ala Pro Pro Ala 675 680 685 Ala pro Pro Val Gln Cys Pro Pro Ser Thr Ser Trp Gln Pro Gln Ser 690 695 700 His Pro Arg Gln Gly His Gly Thr Ser Pro Val Gly Asp His Gly Ser 705 710 715 720 Leu Val Arg Ile Pro Pro Pro Pro Ala His Glu Arg Ser Leu Ser Ala 725 730 735 Tyr Gly Gly Asn Arg Ala Ser Met Glu Phe Leu Arg Gln Glu Asp 740 745 Thr Pro Gly Cys Arg Pro Pro Glu Gly Thr Leu Arg Asp Ser Asp Thr 755 760 765 Ser Ile Ser Ile Pro Ser Val Asp His Glu Glu Leu Glu Arg Ser Phe 770 780 Ser Gly Phe Ser Ile Ser Gln Ser Lys Glu Asn Leu Asp Ala Leu Asn 785 790 795 800

SSCP Update Sequences.ST25 Ser Cys Tyr Ala Ala Val Ala Pro Cys Ala Lys Val Arg Pro Tyr Ile 805 810 815

Ala Glu Gly Glu Ser Asp Thr Asp Ser Asp Leu Cys Thr Pro Cys Gly 820 825

Pro Pro Pro Arg Ser Ala Thr Gly Glu Gly Pro Phe Gly Asp Val Gly 835 840 845

Trp Ala Gly Pro Arg Lys 850

95 854 <210>

Homo sapiens

Met Val Gln Lys Ser Arg Asn Gly Gly Val Tyr Pro Gly Pro Ser Gly 1 10 15

Glu Lys Lys Leu Lys Val Gly Phe Val Gly Leu Asp Pro Gly Ala Pro 20 25 30

Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser Glu Ala Pro 35 40 45

Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly Gly Ala Gly Ala 50 55 60

Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg Lys Leu Gln Asn Phe 65 70 75 80

Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His

Ala Tyr Val Phe Leu Leu Val Phe Ser Cys Leu Val Leu Ser Val Phe 100 105 110

Ser Thr Ile Lys Glu Tyr Glu Lys Ser Ser Glu Gly Ala Leu Tyr Ile 115 120 125

Leu Glu Ile Val Thr Ile Val Val Phe Gly Val Glu Tyr Phe Val Arg 130 135 140

Ile Trp Ala Ala Gly Cys Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg 150 155 160

Leu Lys Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu 165 170 175

Ile Ala Ser Ile Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe Page 230

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SSCP Update Sequences.ST25 185 190

Ala Thr Ser Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met 195 200 205

Ile Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val 210 220

Val Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe 225 230 240

Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys Gly 245 250 255

Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp Gly Leu 260 265 270

Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro Gln Thr Trp 275 280 285

Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile Gly Val Ser Phe 290 295 300

Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val 305 310 315

Gln Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala 325 330 335

Ala Gly Leu Ile Gln Ser Ala Trp Arg Phe Tyr Ala Thr Asn Leu Ser 340 345 350

Arg Thr Asp Leu His Ser Thr Trp Gln Tyr Tyr Glu Arg Thr Val Thr 355 360 365

Val Pro Met Tyr Ser Ser Gln Thr Gln Thr Tyr Gly Ala Ser Arg Leu 370 375 380

Ile Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys 385 390 395

Ser Gly Leu Ala Phe Arg Lys Asp Pro Pro Pro Glu Pro Ser Pro Ser 405 410 415

Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro Arg Gly Val 420 425 430

Ala Ala Lys Gly Lys Gly Ser Pro Gln Ala Gln Thr Val Arg Arg Ser 435 440 445

Pro Ser Ala Asp Gln Ser Leu Glu Asp Ser Pro Ser Lys Val Pro Lys Page 231 450

SSCP Update Sequences.ST25 455 460

Ser Trp Ser Phe Gly Asp Arg Ser Arg Ala Arg Gln Ala Phe Arg Ile 465 470 480 Lys Gly Ala Ala Ser Arg Gln Asn Ser Glu Glu Ala Ser Leu Pro Gly 485 490 495 Glu Asp Ile Val Asp Asp Lys Ser Cys Pro Cys Glu Phe Val Thr Glu
500 510 Asp Leu Thr Pro Gly Leu Lys Val Ser Ile Arg Ala Val Cys Val Met 515 520 525 Arg Phe Leu Val Ser Lys Arg Lys Phe Lys Glu Ser Leu Arg Pro Tyr 530 540 Asp Val Met Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met 545 550 560 Leu Ser Arg Ile Lys Ser Leu Gln Ser Arg Val Asp Gln Ile Val Gly 565 570 Arg Gly Pro Ala Ile Thr Asp Lys Asp Arg Thr Lys Gly Pro Ala Glu 580 585 590 Ala Glu Leu Pro Glu Asp Pro Ser Met Met Gly Arg Leu Gly Lys Val 595 600 605 Glu Lys Gln Val Leu Ser Met Glu Lys Lys Arg Asp Phe Leu Val Asn 610 620 Ile Tyr Met Gln Arg Met Gly Ile Pro Pro Thr Glu Thr Glu Ala Tyr 625 630 635 640 Phe Gly Ala Lys Glu Pro Glu Pro Ala Pro Pro Tyr His Ser Pro Glu 645 650 655 Asp Ser Arg Glu His Val Asp Arg His Gly Cys Ile Val Lys Ile Val 660 665 670 Arg Ser Ser Ser Thr Gly Gln Lys Asn Phe Ser Ala Pro Pro Ala 675 680 685 Ala Pro Pro Val Gln Cys Pro Pro Ser Thr Ser Trp Gln Pro Gln Ser 690 695 700 His Pro Arg Gln Gly His Gly Thr Ser Pro Val Gly Asp His Gly Ser 705 710 715 720

Leu Val Arg Ile Pro Pro Pro Pro Ala His Glu Arg Ser Leu Ser Ala

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Tyr Gly Gly Asn Arg Ala Ser Met Glu Phe Leu Arg Gln Glu Asp 740 745 750

Thr Pro Gly Cys Arg Pro Pro Glu Gly Thr Leu Arg Asp Ser Asp Thr 755 760 765

Ser Ile Ser Ile Pro Ser Val Asp His Glu Glu Leu Glu Arg Ser Phe 770 780

Ser Gly Phe Ser Ile Ser Gln Ser Lys Glu Asn Leu Asp Ala Leu Asn 785 790 795 800

Ser Cys Tyr Ala Ala Val Ala Pro Cys Ala Lys Val Arg Pro Tyr Ile 805 810 815

Ala Glu Gly Glu Ser Asp Thr Asp Ser Asp Leu Cys Thr Pro Cys Gly 820 825 830

Pro Pro Pro Arg Ser Ala Thr Gly Glu Gly Pro Phe Gly Asp Val Gly 835 840 845

Trp Ala Gly Pro Arg Lys 850